Alternate Air Filter and More O-235 Power Mods

James Peck (NM) - On April 20, 1993 I purchased Long-EZ N4706G and flew it from Walla Walla, WA to Albuquerque, NM. I spent the night at Provo, UT in a $2 heated hangar. Normal charge was $25 but **EZs are special**. The next morning mine started immediately while the Bonanza in the unheated hangar next door turned three blades and quit. Thus was my first introduction to the gracious and great world of Long-EZ ownership.

In Washington, at 1,200 ft density altitude, I turned 2,380 rpm static but in ABQ at 5,200 ft. the poor old O-235-C1 could turn only 2,180 rpm. That was totally unacceptable! I'd read of the Aeroduct's restrictive nature and decided to make a change and get rid of it to increase power.

The carb heat valve had been previously modified to bolt directly to the carb inlet with filtered air coming into the front and heated air in from the rear. I next, removed the standard air filter and Aeroduct tubing and put a foam filter from a dirt bike shop with a 2 - 1/2" inlet directly on the carb heat valve. I safety wired the filter to the carb and made a wire mesh to prevent the foam from being sucked into the carb.

The installation was simple and straight forward. It took me about 12 hours to install the sensor, the electronic unit, and temporary power to the unit. It mounted nicely in the firewall space vacated by the stock location air filter.

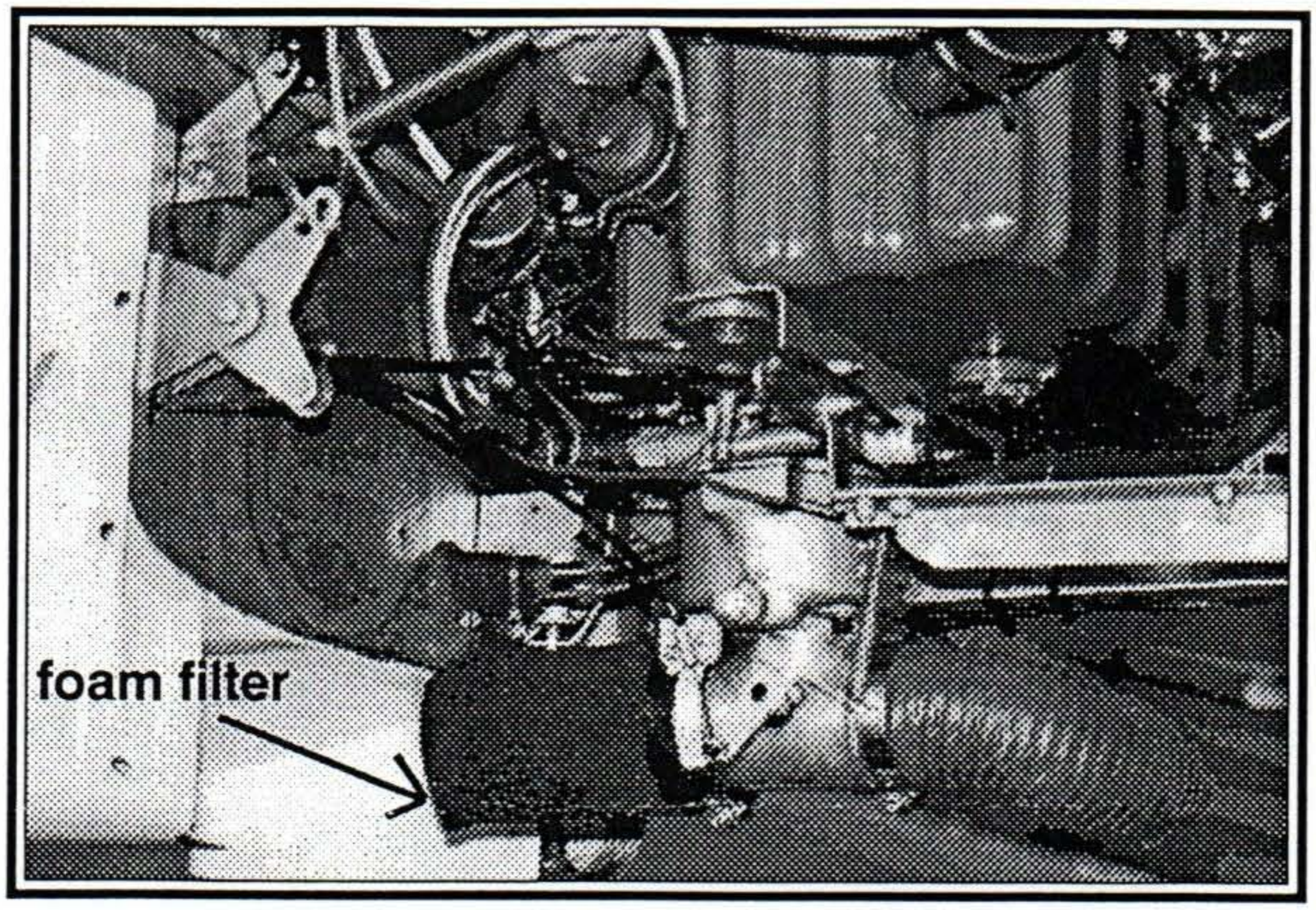
Static rpm came up to 2,375 and max level shows 2,775 rpm. I didn't notice any top speed increase though the plane definitely accelerates better and has a 200 fpm better climb rate. It gets off the ground 200' sooner on take off, too.

Part of the rpm increase may be due to my repainting the flywheel marks that my optical tach reads to determine rpm. I repainted the marks while the flywheel was off for the ignition system installation.

I am also burning about .8 gal per hour less fuel than before.

Presto, now my static is up to 2,250 rpm and now my maximum in flight is 2,550 rpm, up from 2,425. I plan to replace the foam filter with a paper/wire filter of the same design so I have less worry of sucking the foam into the carb.

After reading several articles on different electronic ignition systems and their benefits I decided this was the way to go. One of the Long-EZ owners on my field was installing one brand and having a tough time of it, so I opted to go with the Electroair unit. Especially since Jeff Rose was most helpful and patient in getting me the info I needed and in answering all the questions I had.



The new air filter location increases ram air capability and decreases the standard Aeroduct's drag. It may even allow more cooling air to the hotter running cylinders.

Honda Starter Problems?

Terrance Scherman (IA) - I installed a Honda Accord starter on my Long-EZ about 3 years ago. I like it much better than the aircraft starter as it has an over running clutch and produces at least as much torque. On about 6 occasions, in the last two years with a hot engine, the starter solenoid has failed to engage.

While doing an annual I decided to look into the starter problem. A visual inspection of the disassembled unit revealed nothing, however. The starter solenoid uses a plastic tapered bumper ring that fits into the tapered solenoid cap. I think the plastic bumper was getting wedged into the solenoid cap and I believe that the heat from the engine and close exhaust pipe was causing it to stick when the unit was hot.

To solve this problem I installed a fiberglass .80" diameter washer about .125" thick on the back side of the solenoid. I drilled and tapped the end of the solenoid with a #6-32 UNC tap. I installed this washer with a #6-32 UNC flat head screw. I applied Locktite because I didn't want it to come off. Now the fiberglass washer is the bumper and not the plastic ring. I only have about 40 hours on this modification, but have not had, nor do I anticipate any more problems.